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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,898	03/19/2001	Takanobu Yoshino	09792909-4811	7628

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EXAMINER	
YUAN, DAH WEI D	

ART UNIT	PAPER NUMBER
1745	

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/811,898	Applicant(s) YOSHINO ET AL.	
	Examiner Dah-Wei D. Yuan	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5-16* is/are allowed.

6)☒ Claim(s) *4 and 17-20* is/are rejected.

7)☐ Claim(s) *3* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

METHOD OF MANUFACTURING A BATTERY INCLUDING A POSITIVE ELECTRODE, A NEGATIVE ELECTRODE AND AN ELECTROLYTE LAYER

Examiner: Yuan S.N. 09/811,898 Art Unit: 1745 December 12, 2003

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 25, 2003 has been entered. Claims 5,18 were amended. Claims 19,20 were added.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action (Paper No. 5).

Claim Rejections - 35 USC § 102

3. Claims 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyazaki et al. (US 6,162,264).

Miyazaki et al. teach a method of manufacturing a battery comprising a positive electrode (37, $LiCoO_2$), a negative electrode (38, a carbonaceous material) and a separator (39, electrolyte layer) arranged between the positive electrode and the negative electrode. Miyazaki et al. disclose steps of (1) applying an electrode forming composition comprising active material and a binder on a collector, (b) impregnating the active material layer with liquid material, (c)

solidifying the liquid material to form a solidified material, and (d) peeling a portion of the active material so the electrode active material is formed intermittently on the collector (see Figures 19 and 23). Furthermore, Figure 8 shows an electrode plate in which terminals (7) are attached to the non-coated portions in the current collector (1). The contact region between the terminal and the electrode plate is excluded of any electrolyte layer (see Figure22). Moreover, an electrode mixture layer is not formed on the exposed region between the attaching of the terminal and the forming of the electrode mixture layer (see Figure 8).

With respect to claim 20, Miyazaki et al. further disclose the steps of filling the separator (39) with non-aqueous electrolyte on regions where the electrode active material is formed. The existence of the electrode active material and a coating layer is unfavorable for a certain portion of the electrode plate, for example, for a portion to which a terminal is connected for introducing an electric current, and for a portion along which the electrode plate is subjected to a cutting work, i.e., electrode plate is cut between the intermittently formed electrode active material. See Column 1, Lines 35-54; Column 2, Lines 35-50; Column 4, Lines 4-19.

Claim Rejections - 35 USC § 103

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki et al. (US 6,162,264) as applied to claims 17-20 above in view of Kaido et al. (US 6,314,638).

Miyazaki et al. teach a method of manufacturing a battery as described in Paragraph 3 above. However, Miyazaki et al. do not teach the active electrode materials are formed on both sides of the current collector in the battery assembly. Kaido et al. teach a method to form active

electrode material intermittently over the surface of the current collector as shown in Figure 8. Moreover, the electrode material is coated sequentially or simultaneously to front and back surfaces of the current collector so that uncoated areas at predetermined intervals in the longitudinal direction are obtained. See Column 34, Line 66 to Column 35, Line 5. Therefore, it would have been obvious to one of ordinary skill in the art to coat both surfaces of the electrode collector with active electrode material on the battery of Miyazaki et al., because Kaido et al. teach the active electrode material can be coated on both faces of the current collector sequentially in order to improve the efficiency and performance of the resulting electrochemical cell.

Allowable Subject Matter

5. Claims 5-16 are allowed. The invention of independent claim 5 recites a method of manufacturing a battery comprising the steps of (a) intermittently forming an electrode mixture layer, (b) attaching a terminal to an electrode collector exposed region, (c) forming the electrolyte layer on at least a region where the electrode mixture layer is formed, (d) forming the electrolyte by delivering electrolyte with an electrolyte-delivering machine having a pressurization means, and (e) cutting the electrode collector between the electrode mixture layer which is intermittently formed. The closest prior arts of record, Miyazaki and Kaido et al., do not teach or suggest the formation of the electrolyte layer by using an electrolyte-delivering machine having a pressurization means.

6. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 3 would be allowable because the prior art does not disclose or suggest the use of a protection tape to cover a part of the terminal after the terminal is attached to the electrode collector exposed region.

Response to Arguments

7. Applicant's arguments filed on September 25, 2003 have been fully considered but they are not persuasive.

Applicant's principle arguments are

Miyazaki et al. discloses a process of producing an electrode plate by peeling a portion of an active material layer, which is absent from the Applicant's disclosure.

In response to Applicant's arguments, please consider the following comments.

The term "comprising" in the claim 18 is an open language, which could encompass additional process steps including peeling. Also, the Miyazaki reference teaches a process in which the electrode active material is formed on a first region but not on an exposed region of an electrode collector as shown in Figures 8,11,17-19.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (703) 308-0766. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Dah-Wei D. Yuan
December 12, 2003